

CLAIMS

What is claimed is:

- 5 1. A platen for supporting a media sheet, comprising:
a contact surface;
a channel defined in the contact surface and extending a length, the channel having a
varying cross-sectional area along at least a portion of the length thereof; and
an air passage extending from the channel to deliver negative pressure to the
channel.
- 10 2. The platen of claim 1, wherein the varying cross-sectional area comprises a
tapered portion in the channel.
- 15 3. The platen of claim 2, wherein the tapered portion comprises multiple
tapered portions along the length of the channel.
4. The platen of claim 1, wherein the varying cross-sectional area comprises
varying a width of the channel.
- 20 5. The platen of claim 1, wherein the varying cross-sectional area comprises
varying a depth of the channel.
- 25 6. The platen of claim 1, wherein the varying cross-sectional area comprises
varying a depth and a width of the channel.
7. The platen of claim 1, wherein the air passage extends from the channel at a
tilted orientation configured to reduce friction.
- 30 8. The platen of claim 1, wherein the air passage comprises two air passages
extending from a middle portion of the channel.
9. The platen of claim 1, wherein the air passage extends from a first end
portion of the channel with a second end portion of the channel having a smaller cross-
sectional area than the first end portion.

10. The platen of claim 1, wherein the channel comprises elongated recesses defined in the contact surface and extending transverse from the channel.

5 11. The platen of claim 1, wherein the channel comprises an array of channels extending substantially parallel to each other.

12. The platen of claim 1, wherein the channel comprises a first array of channels and a second array of channels, the first array of the channels extending
10 substantially parallel to each other and the second array of the channels extending substantially parallel to each other.

13. The platen of claim 12, wherein at least one of the channels in the first array includes a common longitudinal axis with at least one of the channels in the second array.

15 14. The platen of claim 12, wherein the channels of the first array are staggered with respect to the channels in the second array.

20 15. The platen of claim 1, wherein the contact surface is a substantially planar surface.

16. The platen of claim 1, wherein the contact surface is disposed around a cylindrical drum with the channel extending along a longitudinal length of the cylindrical drum.

25 17. The platen of claim 1, wherein the contact surface is disposed around a cylindrical drum with the channel extending laterally around the cylindrical drum with respect to a longitudinal length of the cylindrical drum.

30 18. A printer device configured to support a media sheet, the printer device comprising:

- a print engine;
- a negative air pressure source; and

a platen operatively coupled to the negative air pressure source and disposed adjacent the print engine, the platen including:

a contact surface;

a channel defined in the contact surface and extending a length, the channel

5 having a varying cross-sectional area along at least a portion of the length thereof; and

an air passage extending from the channel to the negative air pressure source.

19. The printer device of claim 18, wherein the varying cross-sectional area comprises a tapered portion in the channel.

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20. The printer device of claim 19, wherein the tapered portion comprises multiple tapered portions along the length of the channel.

21. The printer device of claim 18, wherein the varying cross-sectional area
15 comprises varying a width of the channel.

22. The printer device of claim 18, wherein the varying cross-sectional area comprises varying a depth of the channel.

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23. The printer device of claim 18, wherein the varying cross-sectional area comprises varying a depth and a width of the channel.

24. The printer device of claim 18, wherein the air passage extends from the channel at a tilted orientation configured to reduce friction.

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25. A method for supporting media in a printer device, the method comprising:
positioning a back surface of a media sheet against a portion of a contact surface of a platen; and

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establishing negative pressure through an air passage extending from a channel, defined in the contact surface, having a varying cross-sectional area along at least a portion of a length of the channel to suction the media sheet to the contact surface of the platen.

26. The method of claim 25, wherein the positioning further comprises positioning the media sheet to leave an exposed channel portion, uncovered by the media sheet, to suction the media sheet to the contact surface of the platen.

5 27. The method of claim 25, wherein the establishing comprises controlling the negative pressure applied to the media sheet by varying at least one of a depth and a width of the channel to provide the varying cross-sectional area.

10 28. The method of claim 25, wherein the establishing comprises controlling the negative pressure applied to the media sheet by providing a tapered portion in the channel.

29. A platen for supporting a media sheet, comprising:
a contact surface;
negative pressure means for delivering negative pressure to the contact surface; and
15 channel means, defined in the contact surface and having a varying cross-sectional area, for controlling the negative pressure over a length of the channel means delivered from the negative pressure means.